

ABSTRACT

Only recently the shapes and positions of the three spectral sensitivities, of the three input channels to the normal human visual system, have become known with adequate accuracy for commercial exploitation. It is now time, therefore, to design the lighting by which human observers and workers visually operate, so that a maximum of human good-seeing can result from a minimum of kilowatt-hours expended on the lighting. The method is to utilize, in the lighting, only the three spectral colors to which the visual system responds most strongly. The embodiment is a device which efficiently generates white light, using a three-component light-generating medium, the first component electrically energized to exhibit a green emission confined to the immediate wavelength neighborhood of 530nm, the second an orange-red emission confined to the immediate wavelength neighborhood of 610nm, and the third a blue-violet emission confined to the immediate wavelength neighborhood of 450nm.